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U.S. Application No.: 10/689,221
AMENDMENT B

Attorney Docket: 3975.025
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IN THE CLAIMS:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

1. (previously presented) A powder mixture for resorbable calcium phosphate bioceramics, characterized by a fraction mixture consisting of (relative to the total volume of the powder mixture):

40-99% by volume of powder having a particle size of 0.1-10 μ m

1-20% by volume of powder having a particle size of 10-43 μ m

0-59% by volume of powder having a particle size of 43-315 μ m

which powder is obtained by grinding the spontaneously crystallizing melts of a material comprising crystalline and X-ray amorphous phases, which material

a) according to ^{31}P -NMR measurements, contains Q_0 -groups of orthophosphate and Q_1 -groups of diphosphate, the orthophosphates or Q_0 -groups making up 65 to 99.9% by weight relative to the total phosphorus content of the powder mixture and the diphosphates or Q_1 -groups making up 0.1 to 35% by weight relative to the total phosphorus content of the powder mixture, and

b) according to X-ray diffractometric measurements and relative to the total weight of the powder mixture, contains 35 to 99.9% by weight of a main crystal phase selected from the group consisting of $\text{Ca}_2\text{K}_{1-x}\text{Na}_{1+x}(\text{PO}_4)_2$, where $x = 0.1$ to 0.9 , $\text{Ca}_{10}\text{Na}(\text{PO}_4)_7$, $\text{Ca}_{10}\text{K}(\text{PO}_4)_7$, mixtures thereof and mixed crystals according to the general formula $\text{Ca}_{10}\text{K}_x\text{Na}_{1-x}(\text{PO}_4)_7$, where $x = 0$ to 1 , and 0.1 to 20% by weight of a substance selected from the group consisting of $\text{Na}_2\text{CaP}_2\text{O}_7$, $\text{K}_2\text{CaP}_2\text{O}_7$, $\text{Ca}_2\text{P}_2\text{O}_7$, NaPO_3 , KPO_3 and mixtures thereof as a secondary crystal phase, and

c) besides the main crystal phase, contains an X-ray amorphous phase which in total makes up 0.1 to 65% by weight relative to the total weight of the powder mixture

and which material is prepared by combining the substances 30-55% by weight CaO , 35-50% by weight P_2O_5 , 1-20% by weight Na_2O , 0.5-20% by weight K_2O and 0.1-5% by weight

[WP353915.1]

- 2 -